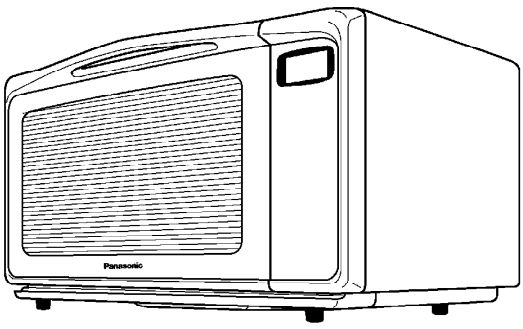
ORDER NO.SIMMC0408027A3

Service Manual

Microwave Oven

NN-C784MF / NN-C784WF

HPE(Hong Kong)
YPQ(Singapore)
MPQ(Malaysia)
TPE(Thailand, Indonesia)
YTE(Others)
KTE(UAE)
KUE(Egypt)
PTE(Iran)
KPQ(Kuwait, Doha, Qatar, Oman, Bahrain, Pakistan)
STM(Saudi Arabia)
ZPE(CIS Countries)



SPECIFICATIONS

Specification

Model		NN-C784MF/WF
Power Source:		240V AC Single Phase, 50Hz _ _ _ _ _ For KPQ, MPQ, YPQ Models 220V AC Single Phase, 50Hz _ _ _ _ _ For KTE, KUE, ZPE, HPE, TPE, YTE,PTE Models 220V AC Single Phase, 50Hz/60Hz _ _ For STM Models
Power Requirement:	Microwave	1260W
	Heater	1550W
Output:	Microwave	1000W
	Heater	1515W
Microwave Frequency:		2450MHz
Timer:		30min(HIGH)/99min.59sec
Outside Dimensions:		400mm(D) x 520mm(W) x 312mm(H)
Oven Cavity Dimensions:		373mm(D) x 373mm(W) x 206mm(H)
Weight:		15.5kg
PbF		This product with PbF
Specifications subject to change without notice.		

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

WARNING

1. This product should be serviced only by trained, qualified personnel.
2. Check for radiation leakage before and after every servicing according to the "procedure for measuring radiation leakage."
3. If the unit cannot be repaired on site, advise the customer not to use until unit is repaired.
4. There are special components used in the microwave oven which are important for safety. These parts are marked with a ⚠ on the replacement parts list. It is essential that these critical parts be replaced only with the manufacture's specified parts to prevent microwave leakage, shock, fire, or other hazards. Do not modify the orginal design.

This service manual covers products for following markets.
When troubleshooting or replacing parts, please refer to the country identifications shown below for your applicable product specification.

HPE	For Hongkong
TPE	For Thailand, Indonesia
YPQ	For Singapore
MPQ	For Malaysia
YTE	For Others
ZPE	For CIS Countries
KTE	For UAE
KUE	For Egypt
PTE	For Iran
KPQ	For Kuwait, Doha, Qatar Oman, Bahrain, Pakistan
STM	For Saudi Arabia

CAUTION

About lead free solder (PbF)

Distinction of PbF PCB: PCBs (manufactured) using lead free solder will have a PbF stamp on the PCB.

Caution:
- Pb free solder has a higher melting point than standard solder; Typically the melting point is 30 - 40˚C higher. Please use a high temperature soldering iron. In case of the soldering iron with temperature control, please set it to 370 ± 10˚C.
- Pb free solder will tend to splash when heated too high (about 600˚C).

Panasonic®

DANGER OF HIGH VOLTAGE AND HIGH TEMPERATURE (HOT/LIVE) OF THE INVERTER POWER SUPPLY **(U)**

INVERTER WARNING

This Inverter board looks like a regular PCB. However, this PCB drives the magnetron tube with extremely high voltage and high current. NEW H.V.

IT HAS:

1. **Very high voltage and high current circuits.**
   It functions the same as the high voltage transformer and high voltage capacitor in ordinary microwave ovens.
2. **Aluminum heat sink is energized with very high voltages and high heat energy.**
3. **Very high voltage may remain in circuitry even when oven is off. High voltage charge may remain in the capacitors on the board.**

DO NOT:

* 1. **Do not touch circuitry because it has very hot (high voltage) circuitry. Even when replacing board, extreme care should be taken to avoid possible electric shock hazards. High voltage charge may remain in circuit.**

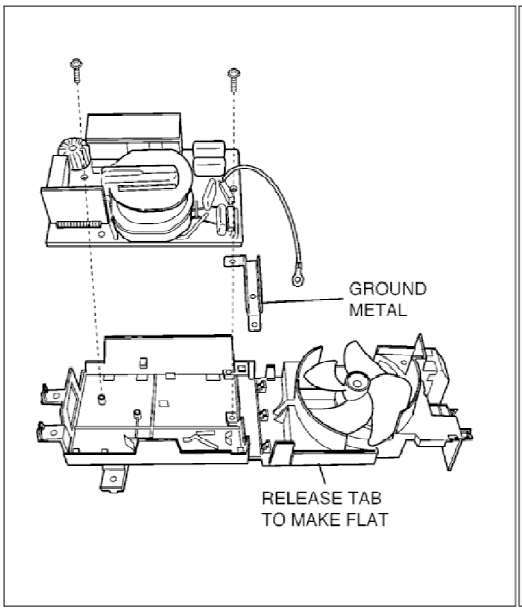
* 2. **Do not touch aluminum heat sink because it is energized with very high voltage and also is very hot in high heat energy.**

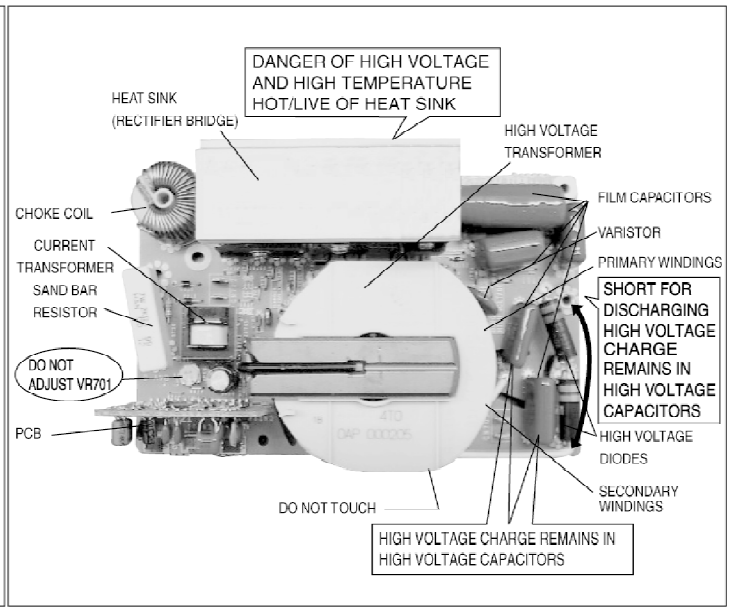
* 3. **Do not try to adjust or tamper with preset control on the Inverter board because it is very dangerous to adjust without proper test equipment.**

* 4. **Do not test oven while Inverter grounding plate or screws are loose. It is very dangerous to operate H.V. Inverter Circuit (U) with loose mounting screws or if improperly grounded.**

* 5. **Do not try to repair Inverter PCB because it is very dangerous to repair. Replace as a complete High Voltage Inverter Circuit unit.**

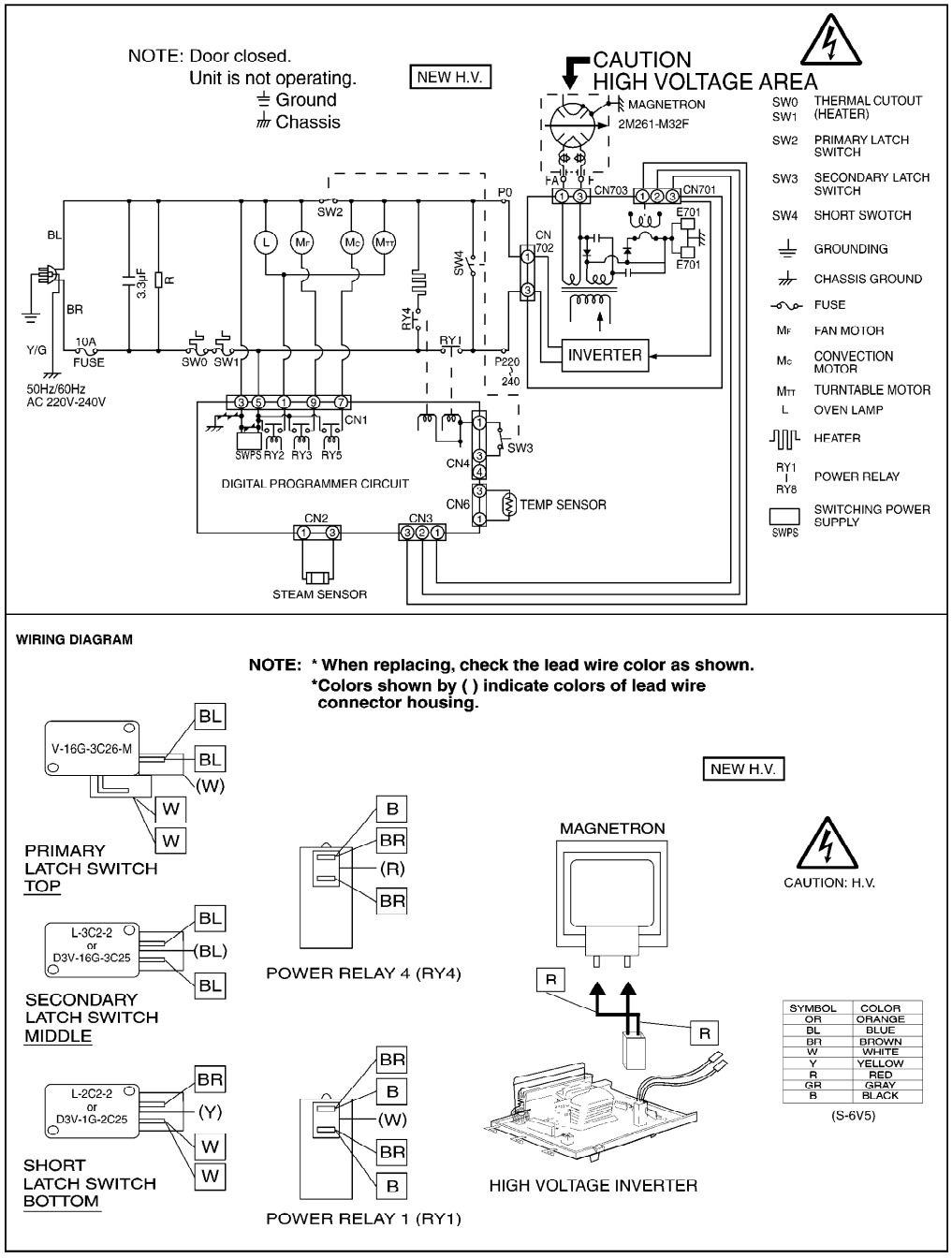
INVERTER POWER SUPPLY



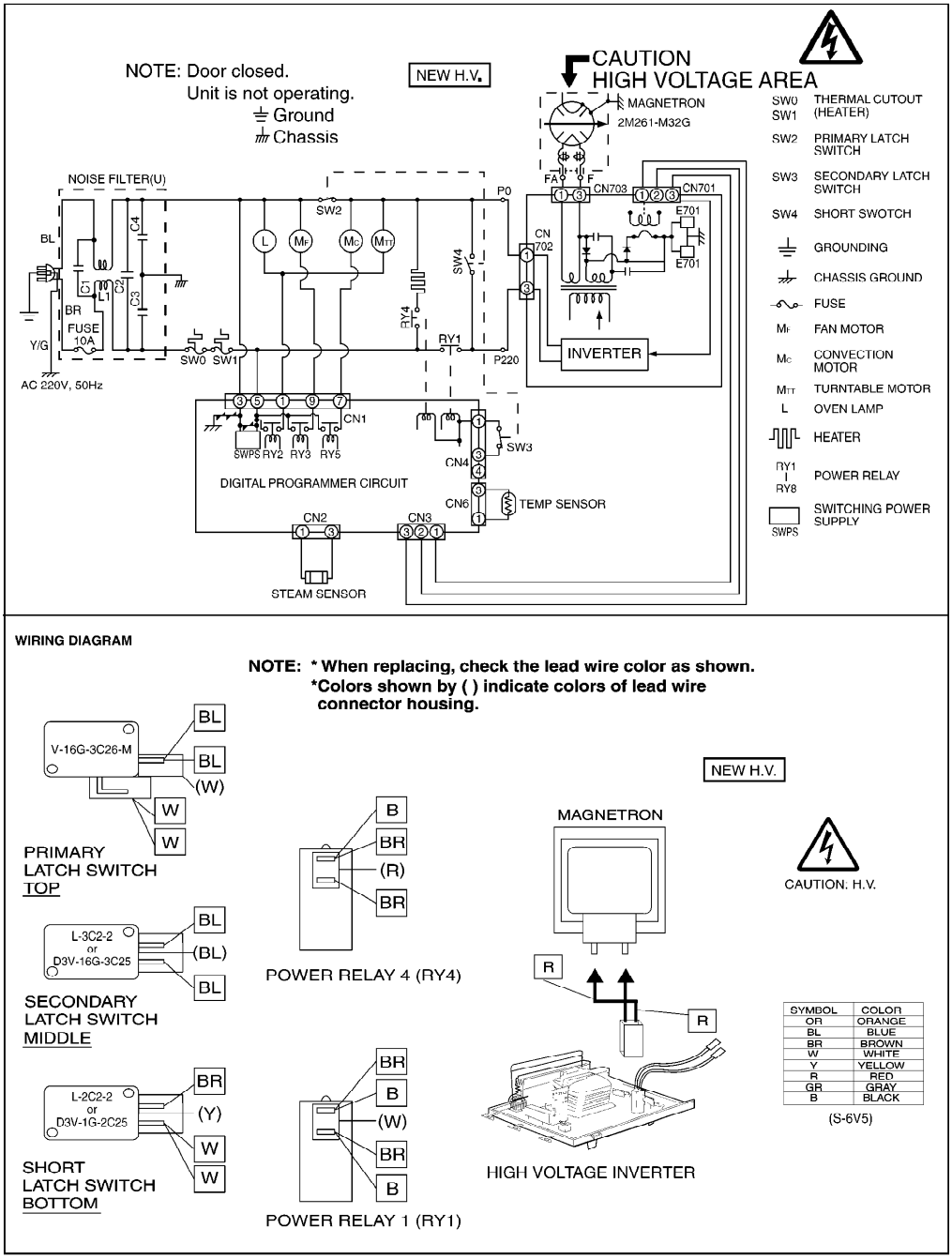


1. SCHEMATIC DIAGRAM

1.1. NN-C784MF/WF (EXCEPT ZPE)



1.2. NN-C784MF (ZPE)



2. CAUTIONS TO BE OBSERVED WHEN TROUBLESHOOTING

Unlike many other appliances, the microwave oven is a high voltage, high current device. It is free from danger in ordinary use, though extreme care should be taken during repair.

Caution

Servicemen should remove their watches whenever working close to or replacing the magnetron.

2.1. Check the grounding

Do not operate on a two wire extension cord. The microwave oven is designed to be grounded when used. It is imperative, therefore, to ensure the appliance is properly grounded before beginning repair work.

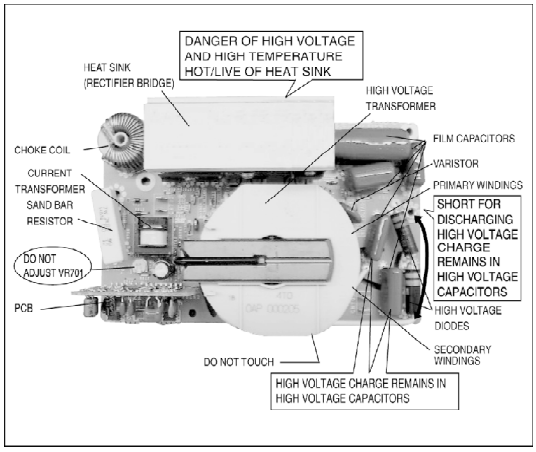
2.2. Inverter warnings

DANGER, HIGH VOLTAGE AND HIGH TEMPERATURE (HOT/LINE) OF THE INVERTER POWER SUPPLY (U)

This high voltage inverter power supply handles very high voltage and current for the magnetron tube. Though it is free from danger in ordinary use, extreme care should be taken during repair.

The aluminum heat sink is also energized with high voltage (HOT), so do not touch when the AC input terminals are energized. The power devices Collector is directly connected to the aluminum heat sink.

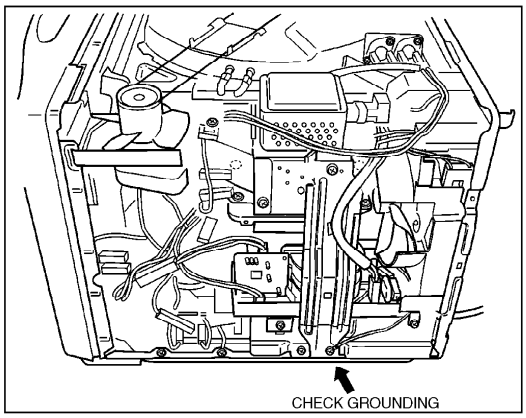
The aluminum heat sink may be HOT due to heat energy, therefore, extreme care should be taken during servicing.



H.V. Inverter warning

WARNING FOR INVERTER POWER SUPPLY (U) GROUNDING

Check the high voltage inverter power supply circuit grounding. The high voltage inverter power supply circuit board must have a proper chassis ground, the inverter grounding bracket must be connected to the chassis. If the inverter board is not grounded it will expose the user to very high voltages and cause extreme DANGER! Be sure that the inverter circuit is properly grounded via the inverter earth bracket.

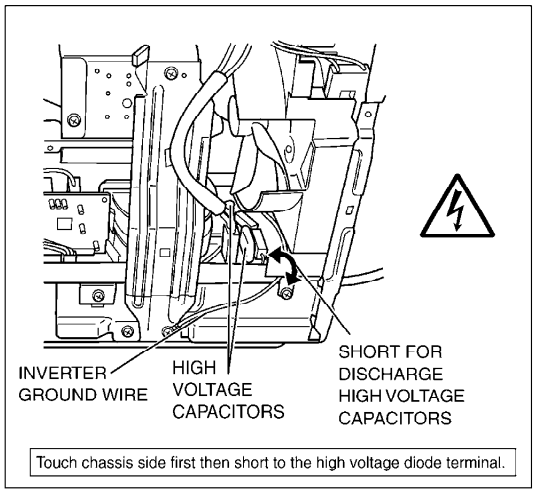


Grounding of the inverter circuit board

WARNING! DISCHARGE THE HIGH VOLATGE CAPACITORS

For about 30 seconds after the oven is turned off, an electric charge remains in the high voltage capacitors in the inverter power supply circuit board.

When replacing or checking parts, remove the power plug from the outlet and short the inverter output terminal of the magnetron filament terminals to the chassis ground with an insulated handle screwdriver to discharge. Please be sure to touch the chassis ground side first and then short to the output terminals.


INVERTER GROUND WIRE
HIGH VOLTAGE CAPACITORS
SHORT FOR DISCHARGE HIGH VOLTAGE CAPACITORS
Touch chassis side first then short to the high voltage diode terminal.

Discharging the high voltage capacitors

WARNING

There is high voltage present with high current capabilities in the circuits of the primary and secondary windings, choke coil and heat sink of the inverter. It is extremely dangerous to work on or near these circuits with the oven energized. DO NOT measure the voltage in the high voltage circuit including the filament voltage of the magnetron.

WARNING

Never touch any circuit wiring with your hand or with an insulated tool during operation.

2.3. Part replacement.

When any part or component is to be replaced, always ensure that the power cord is removed from the wall outlet.

2.4. When the 10A fuse is blown due to the operation of the short switch:

WARNING

When the 10A 250V fuse is blown due to the operation of the interlock monitor switch, replace all of the components (primary latch switch, secondary latch switch, short switch and power relay B (RY1)).

1. **This is mandatory. Refer to “adjustments and measurements” for the location of these switches.**
2. **When replacing the fuse, confirm that it has the appropriate rating for these models.**
3. **When replacing faulty switches, be sure the mounting tabs are not bent, broken or deficient in their ability to hold the switches.**

2.5. Avoid inserting nails, wire etc. through any holes in the unit during operation.

Never insert a wire, nail or any other metal object through the lamp holes on the cavity or any holes or gaps, because such objects may work as an antenna and cause microwave leakage.

2.6. Confirm after repair

1. **After repair or replacement of parts, make sure that the screws of the oven, etc. are neither loose nor missing. Microwaves might leak if screws are not properly tightened.**
2. **Make sure that all electrical connections are tight before inserting the plug into the wall outlet.**
3. **Check for microwave energy leakage. (Refer to procedure for measuring microwave energy leakage).**

CAUTION MICROWAVE RADIATION

USE CAUTION NOT TO BECOME EXPOSED TO RADIATION FROM THE MICROWAVE MAGNETRON OR OTHER PARTS CONDUCTING

MICROWAVE ENERGY

IMPORTANT NOTICE

The following components have potentials above 2000V while the appliance is operated.

- Magnetron
- High voltage transformer (Located on inverter (U))
- High voltage diodes (Located on inverter (U))
- High voltage capacitors (Located on inverter (U))

Pay special attention to these areas.

When the appliance is operated with the door hinges or magnetron fixed incorrectly, the microwave leakage can exceed more than 5mW/cm$_2$. After repair or exchange, it is very important to check if the magnetron and the door hinges are correctly installed.

2.7. Sharp edges

Caution

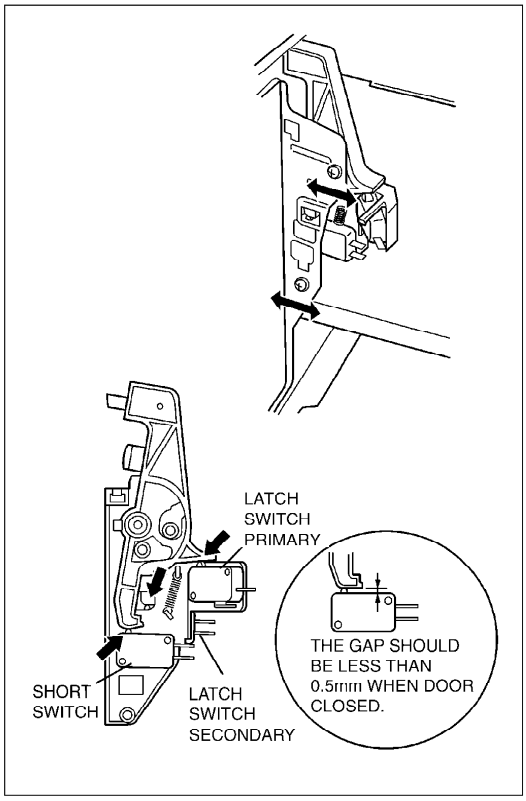
Please use caution when unpacking, installing or moving the unit, as some exposed edges may be sharp to the touch and cause injury if not handled with care.

3. MEASUREMENTS AND ADJUSTMENTS

3.1. Adjustment of primary latch switch, secondary latch switch and short switch.

1. **Mount the Primary latch switch, the Secondary latch switch and the Short switch to the door hook assembly as shown in ILL.**
   NOTE:
   No specific individual adjustment during installation of the Primary latch switch, Secondary latch switch or short switch to the door hook are required.
2. **When mounting the door hook assembly to the oven assembly, adjust the door hook assembly by moving it in the direction of the arrows in the illustration, so that the oven door will not have any play in it. Check for play in the door by pulling the door assembly. Make sure that the latch keys move smoothly after adjustment is completed. Completely tighten the screws holding the door hook assembly to the oven assembly.**
3. **Reconnect the short switch and check the continuity of the**

monitor circuit and all latch switches again by following the component test procedures.



3.2. Measurement of microwave output

The output power of the magnetron can be determined by performing IEC standard test procedures. However,due to the complexity of IEC test procedures, it is recommended to test the magnetron using the simple method outlined below.

Necessary Equipment:

***1 liter beaker *Glass thermometer / *Wrist watch or stopwatch**

NOTE:

Check the line voltage under load.Low voltage will lower the magnetron output. Take the temperature readings and heating time as accurately as possible.

1. **Fill the beaker with exactly one liter of tap water.Stir the water using the thermometer and record the water's temperature. (recorded as T1).**
2. **Place the beaker on the center of glass tray. / Set the oven for High power and heat it for exactly one minute.**
3. **Stir the water again and read the temperature of the water. (recorded as T2).**

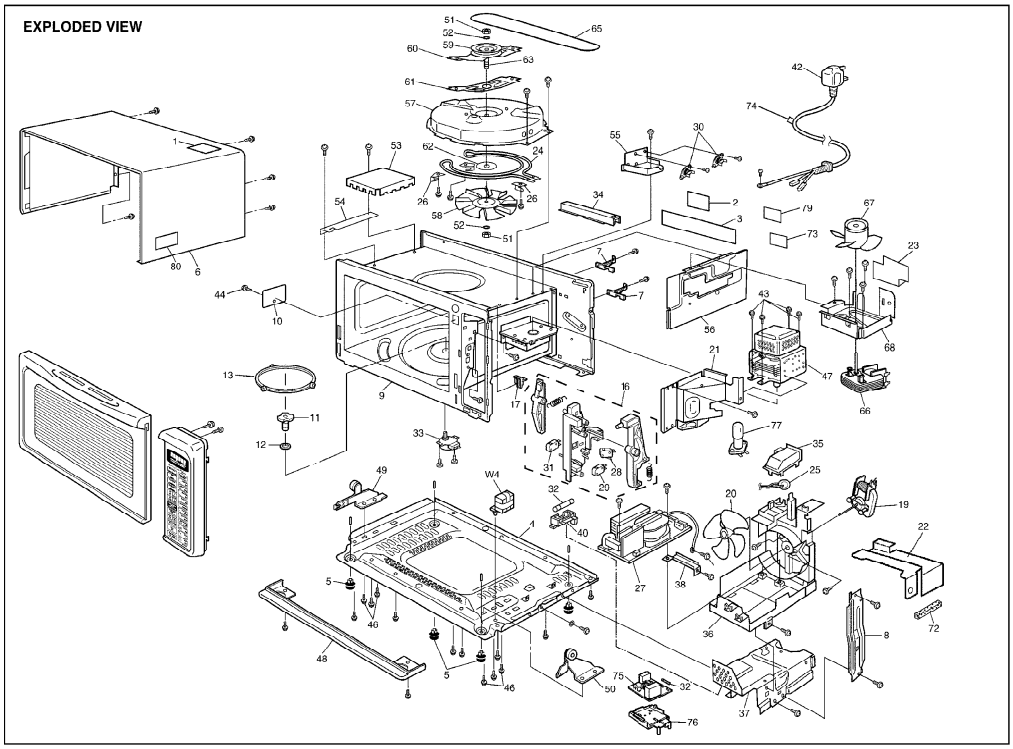
4. The normal temperature rise at High power level for each model, is as shown in table.

TABLE (1L-1min.test)

RATED OUTPUT	TEMPERATURE RISE
1000W	Min.8.6°C

4. EXPLODED VIEW AND PARTS LIST

4.1. EXPLODED VIEW



4.2. PARTS LIST

NOTE:

1. When ordering replacement part(s), please use part number(s) shown in this part list.
Do not use description of the part.

2. Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacture's specified parts.

NOTE:

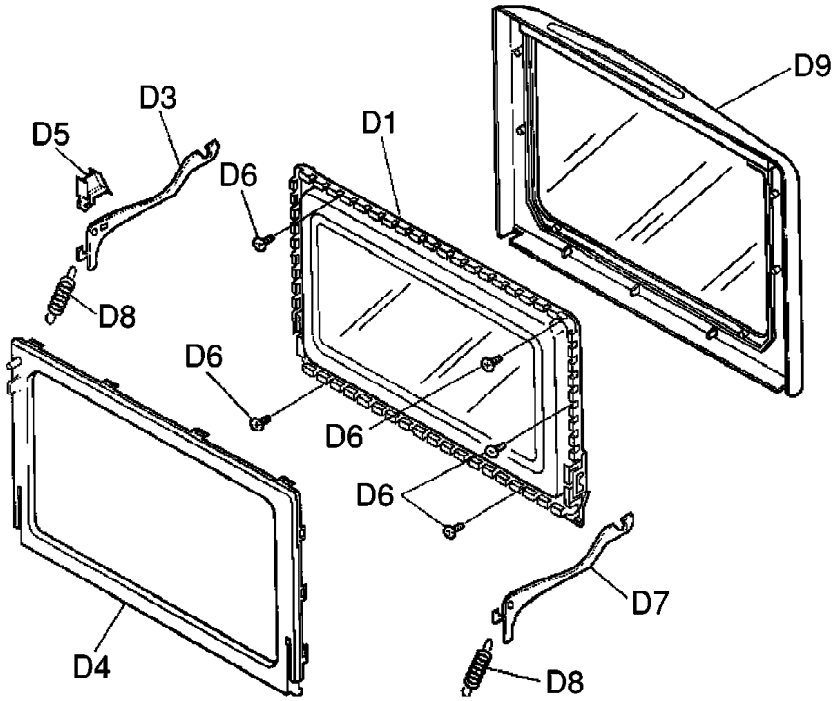
- “A“ parts are supplied by CSD (Japan)
- “F“ parts are supplied by PHAMOS (China)

Ref. No.		Part No.	Part Name & Description	Pcs/Set	Remarks
1		F01506W50XP	NO TOUCHING LABEL	1	
2		F00066V00HP	CAUTION LABEL	1	EXCEPT ZPE
2		F00066W10ZP	CAUTION LABEL	1	ZPE
3		F00076V50SHP	NAME PLATE	1	C784MF HPE
3		F00076V50SMP	NAME PLATE	1	C784MF MPQ
3		F00076V50SYP	NAME PLATE	1	C784MF YPQ
3		F00076V50SYT	NAME PLATE	1	C784MF YTE
3		F00076V50STP	NAME PLATE	1	C784MF TPE
3		F00076V50SKT	NAME PLATE	1	C784MF KTE
3		F00076V50SKP	NAME PLATE	1	C784MF KPQ
3		F00076V50SST	NAME PLATE	1	C784MF STM
3		F00076V50SPT	NAME PLATE	1	C784MF PTE
3		F00076V50SZP	NAME PLATE	1	C784MF ZPE
3		F00076V50HKT	NAME PLATE	1	C784WF KTE
3		F00076V50HKP	NAME PLATE	1	C784WF KPQ
3		F00076V50HST	NAME PLATE	1	C784WF STM
3		F00076V50HPT	NAME PLATE	1	C784WF PTE
3		F00076V50HKU	NAME PLATE	1	C784WF KUE
4		F10014X80XN	BASE	1	
5		F1008-3W0	RUBBER FOOT	4	
6		F110D6V50SHP	CABINET BODY(U)	1	C784MF
6		F110D6V50HKT	CABINET BODY(U)	1	C784WF
7		F11404J60XN	STOPPER	2	
8		F11614X80MN	REINFORCE BRACKET	1	
9	⚠	F200A5G00XN	OVEN(U)	1	
10		F2011-1640	COVER	1	
11		F21315G00XN	PULLY SHAFT	1	
12		F2177-F80	WASHER	1	
13		F290D5G00XN	ROLLER RING (U)	1	
16	⚠	J300W-1830	DOOR HOOK (U)	1	
17		F3105-1830	LATCH BRACKET	1	
19		F400A6V50HP	FAN MOTOR	1	
20		F40084T00AP	FAN BLADE	1	
21		F40254X80MN	AIR GUIDE A	1	
22		F40264X80MN	AIR GUIDE B	1	
23		F40315G00XN	AIR GUIDE C	1	
24		F630G4X80HN	HEATER(AU)	1	HPE,YTE,TPE,KTE,STM,ZPE,PTE,KUE
24		F630G4X80MN	HEATER(AU)	1	MPQ,YPQ,KPQ
25		A607S-1450	SENSOR	1	
26		F64174X80MN	HEATER MOUNTING PLATE	3	
27	⚠	F606Y4V00XN	H.V.INVERTER(U)	1	
28	⚠	J6142-1450	MICRO SWITCH	1	(V-16G-3C26-M)(PRIMARY LATCH SWITCH)
29	⚠	A61425180AP	MICRO SWITCH	1	(L-3C2-2)(SECONDARY LATCH SWITCH)
30	⚠	F61456V50HP	THERMAL CUTOUT	2	

Ref. No.		Part No.	Part Name & Description	Pcs/Set	Remarks
31	⚠	A61785180AP	MICRO SWITCH	1	(L-2C2-2)(SHORT SWITCH)
32	⚠	A62304210BP	FUSE	1	10A,250V
33		F63265U00XN	TURNTABLE MOTOR	1	
34		F64504J00XN	SENSOR COVER B	1	
35		F65434X80MN	SENSOR COVER C	1	
36		F65854Y60XN	INVERTER BRACKET	1	
37		F67634X80MN	INVERTER BRACKET B	1	
38		F66624X80MN	GROUNDING PLATE	1	
40		A62314000AP	FUSE HOLDER	1	EXCEPT STM , ZPE
42	⚠	F900C5E60YK	AC CORD W/PLUG	1	HPE,MPQ,YPQ,YTE,KTE,KPQ,KUE
42	⚠	F900C5E60TN	AC CORD W/PLUG	1	TPE,PTE
42	⚠	F900C5G00ST	AC CORD W/PLUG	1	STM
42	⚠	F900C5G00ZP	AC CORD W/PLUG	1	ZPE
43		XTWAFE4+10RU	SCREW	4	FOR MAGNETRON
44		XTTFA4+6BN	SCREW	1	FOR COVER
46		XTWFA4+12LR	SCREW	4	FOR LEFT HINGE 2,RIGHT HINGE 2
47	⚠	2M261-M32F	MAGNETRON	1	EXCEPT STM,ZPE
47	⚠	2M261-M32J	MAGNETRON	1	STM,ZPE
48		F80234J00XN	ESCUTCHEON SASH	1	
49	⚠	F300B-1640	LEFT HINGE	1	
50	⚠	F300U-1640	RIGHT HINGE	1	
51		XNG4EVS	NUT	2	
52		XWS4VL	SPRING WASHER	2	
53		F40244X80MN	EXHAUST GUIDE A	1	
54		F41074X80MN	EXHAUST GUIDE B	1	
55		F48804X80MN	INSULATION PLATE	1	
56		F22364X80MN	RIGHT HEATER PANEL	1	
57		F203M4X80MN	HEATER FAN CASE	1	
58		F22395850AP	HEATER FAN	1	
59		F41325850AP	PULLEY B	1	
60		F41575850AP	FAN BRACKET A	1	
61		F41585850AP	FAN BRACKET B	1	
62		F41635850AP	FAN SPACER C	1	
63		A420P5850AP	HEATER FAN AXLETREE (U)	1	
65		A40604X80MN	BELT A	1	
66		F41795G00XN	HEATER FAN MOTOR	1	EXCEPT STM
66		F41795G00SN	HEATER FAN MOTOR	1	STM
67		F40085020AQ	FAN BLADE	1	
68		F41805G00XN	HEATER FAN MOTOR BRACKET	1	
72		F0922000AD	CUSHION RUBBER C	1	(AIR GUIDE B)
73		F0005-4S10	EARTH LABEL	1	TPE
74		F02395E20KN	CORD CAUTION LABEL	1	KTE,KPQ,STM,PTE,KUE
75		J692Y4T00QPR	NOISE FILTER(U)	1	STM,ZPE

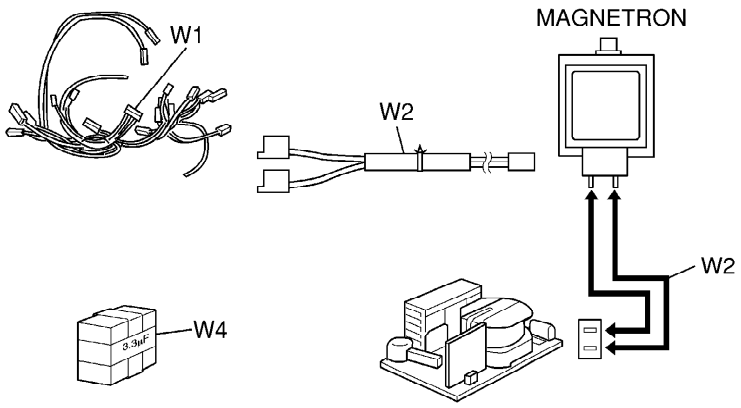
Ref. No.		Part No.	Part Name & Description	Pcs/Set	Remarks
76		F67974X00CP	P.C.B. HOLDER	1	STM,ZPE
77		F612E5G00XP	INCANDESCENT LAMP(U)	1	EXCEPT HPE
77		F612E5T80HN	INCANDESCENT LAMP(U)	1	HPE
79		F00066W10MP	CAUTION LABEL	1	YPQ
80		F02846V50YP	NO. LABEL	1	YPQ

4.3. DOOR ASSEMBLY



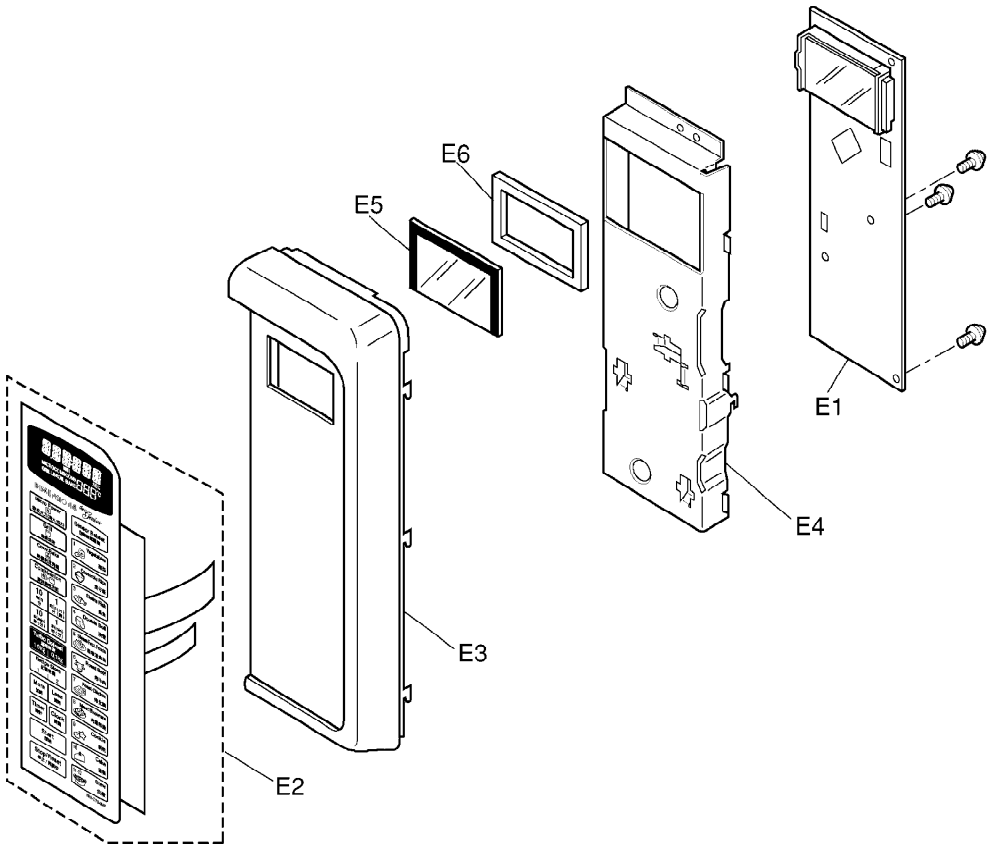
Ref. No.		Part No.	Part Name & Description	Pcs/Set	Remarks
D1	⚠	F302K4J00XN	DOOR E(U)	1	
D3		F3044-1640	RIGHT DOOR ARM	1	
D4	⚠	F30854J00XN	DOOR C	1	
D5		F3252-1450	DOOR ARM SPACER	1	
D6		XTNFA3+7Q	SCREW	8	
D7		F3054-1640	LEFT DOOR ARM	1	
D8		F3230-1600	DOOR KEY SPRING B	1	
D9	⚠	F302A6V50SHP	DOOR A (U)	1	C784MF
D9	⚠	F302A6V50HKT	DOOR A (U)	1	C784WF

4.4. WIRING MATERIALS



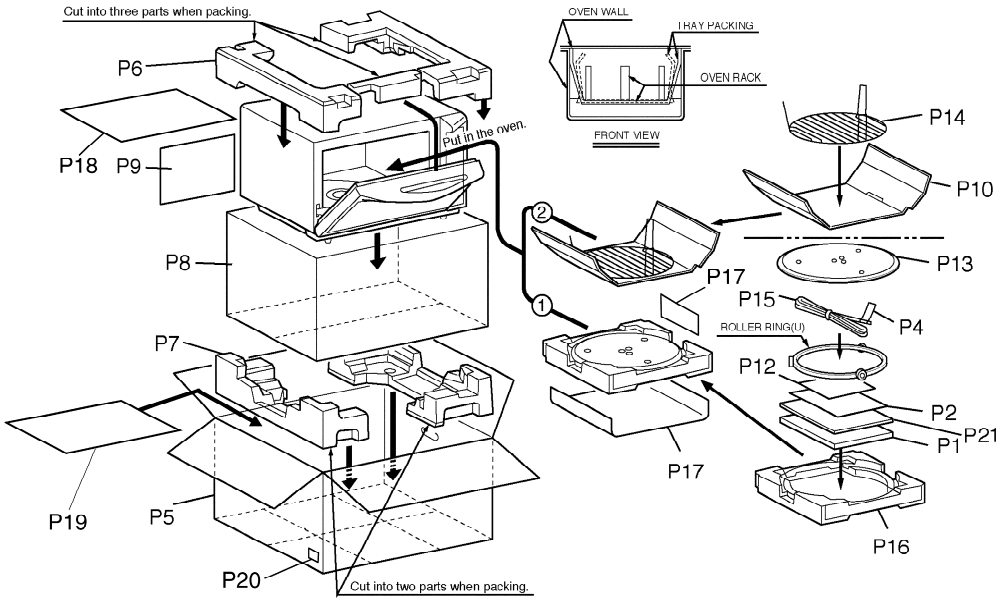
Ref. No.		Part No.	Part Name & Description	Pcs/Set	Remarks
W1		F030A5G00XN	LEAD WIRE HARNESS	1	EXCEPT STM , ZPE
W1		F030A5G00ZP	LEAD WIRE HARNESS	1	STM,ZPE
W2		F030E4X80MN	H.V. LEAD WIRE	1	
W4		AECQJ5335KRP	CAPACITOR	1	EXCEPT STM , ZPE

4.5. ESCUTCHEON BASE ASSEMBLY



Ref. No.		Part No.	Part Name & Description	Pcs/Set	Remarks
E1		F603L5G00HN	D.P. CIRCUIT	1	HPE
E1		F603L5G00MN	D.P. CIRCUIT	1	MPQ
E1		F603L5G00YN	D.P. CIRCUIT	1	YPQ
E1		F603L5G00TN	D.P. CIRCUIT	1	YTE,TPE
E1		F603L5G00SN	D.P. CIRCUIT	1	KTE,STM,PTE,KUE
E1		F603L5G00KN	D.P. CIRCUIT	1	KPQ
E1		F603L5G00ZP	D.P. CIRCUIT	1	ZPE
E2		F630Y6V50SHP	MEMBRANE SWITCH	1	C784MF HPE/MPQ/YPQ/YTE/TPE
E2		F630Y6V50SKT	MEMBRANE SWITCH	1	C784MF KTE/KPQ/STM/PTE
E2		F630Y6V50SZP	MEMBRANE SWITCH	1	C784MF ZPE
E2		F630Y6V50HKT	MEMBRANE SWITCH	1	C784WF KTE/KPQ/STM/PTE/KUE
E3		F80346V50SHP	ESCUTCHEON BASE	1	C784MF
E3		F80346V50HKT	ESCUTCHEON BASE	1	C784WF
E4		F81274J00XN	BACK PANEL	1	
E5		F80025G00XN	ESCUTCHEON B	1	
E6		F82844J00XN	CUSHION RUBBER	1	

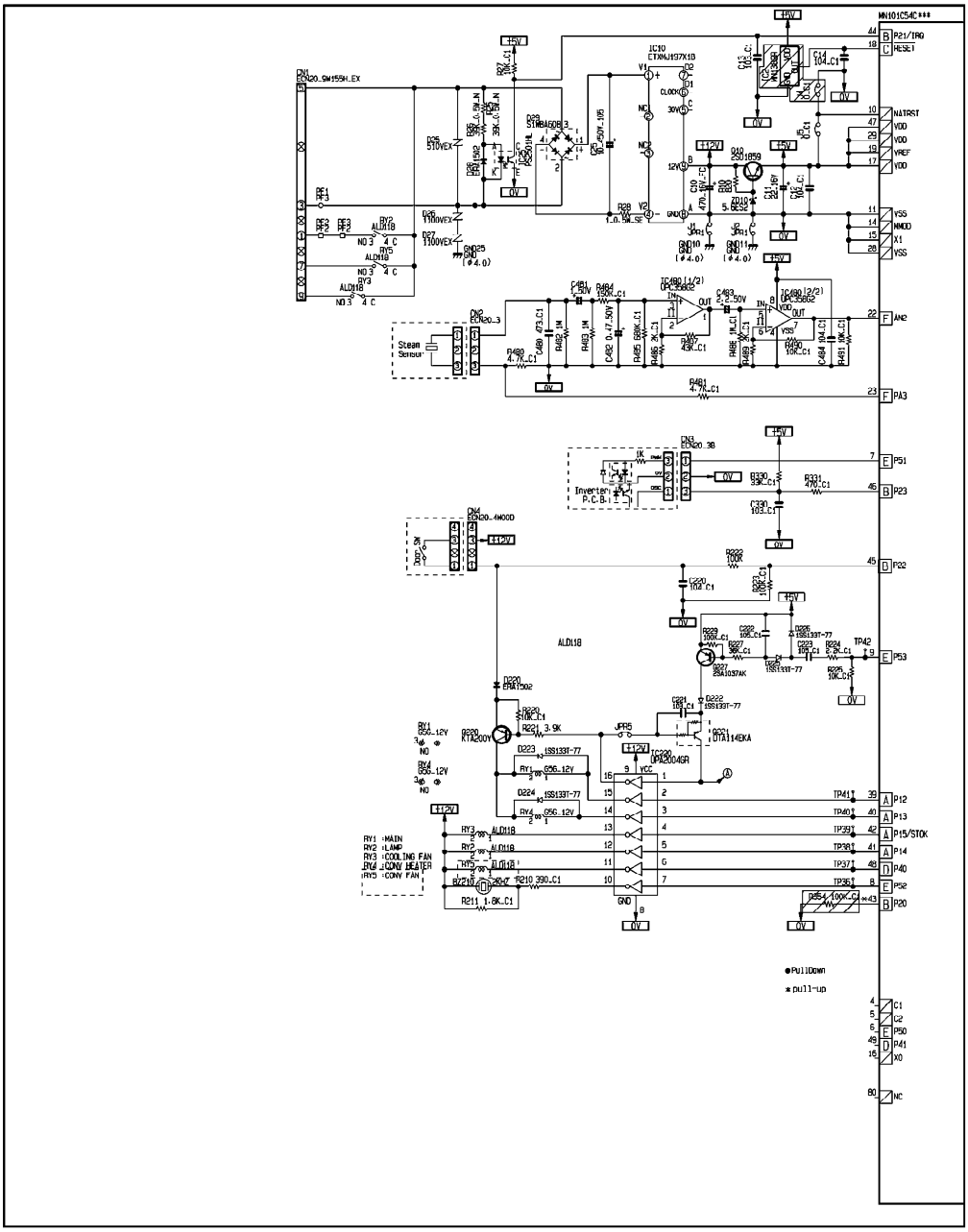
4.6. PACKING AND ACCESSORIES

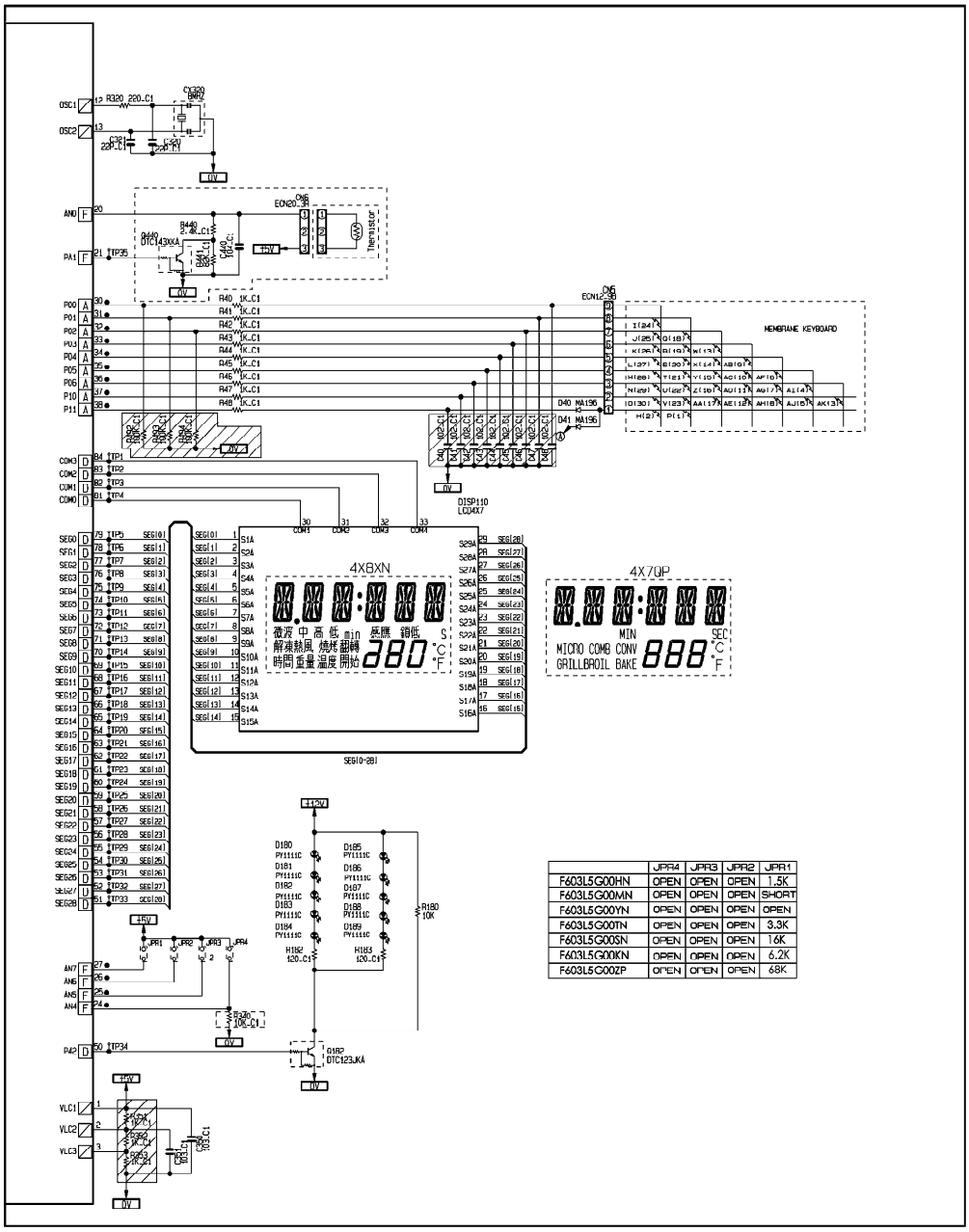


Ref. No.		Part No.	Part Name & Description	Pcs/Set	Remarks
P1		F00036V50HP	INSTRUCTION MANUAL	1	HPE,MPQ,YPQ,YTE,TPE
P1		F00036V50KP	INSTRUCTION MANUAL	1	KTE,KPQ,STM,PTE,KUE
P1		F00036V50ZP	INSTRUCTION MANUAL	1	ZPE
P2		F000B6V50HP	COOKING GUIDE	1	HPE,MPQ,YPQ,YTE,TPE
P2		F000B6V50KP	COOKING GUIDE	1	KTE,KPQ,STM,PTE,KUE
P2		F000B6V50ZP	COOKING GUIDE	1	ZPE
P4		F00324040XN	EARTH CAUTION LABEL	1	TPE
P5		F01026V50SHP	PACKING CASE,PAPER	1	C784MF HPE/MPQ/YPQ/YTE/TPE
P5		F01026V50SKT	PACKING CASE,PAPER	1	C784MF KTE/PTE
P5		F01026V50SKP	PACKING CASE,PAPER	1	C784MF KPQ/STM
P5		F01026V50SZP	PACKING CASE,PAPER	1	C784MF ZPE
P5		F01026V50HKT	PACKING CASE,PAPER	1	C784WF KTE/PTE/KUE
P5		F01026V50HKP	PACKING CASE,PAPER	1	C784WF KPQ/STM
P6		F01044J00XN	UPPER FILLER	1	
P7		F01054J00XN	LOWER FILLER	1	
P8		F01064W00AP	P.E. BAG	1	
P9		F01078100XN	DOOR SHEET	1	
P10		F01084J00XN	TRAY PACKING	1	
P12		F04456V50SMP	OVERLAY	1	MPQ,YPQ,YTE
P12		F04456V50STP	OVERLAY	1	TPE
P13		A06014J00XN	COOKING TRAY	1	
P14		F06024X80MN	OVEN RACK	1	
P15		F91644000XN	EARTH LEAD	1	TPE
P16		F01134J00XN	TRAY STYROL	1	
P17		F01174J00KN	TRAY STYROL B	1	KTE,KPQ,STM,PTE,KUE
P18		F01925E60XN	SHEET	1	
P19		F01264J00XN	REINFORCE MATERIAL	1	KTE,KPQ,STM,PTE,KUE
P20		F01115E90ZP	G LABEL	1	ZPE
P21		F01565G00HP	OPERATION PRECAUTION	1	HPE,MPQ,YPQ,YTE,TPE
P21		F01565G00KP	OPERATION PRECAUTION	1	KTE,KPQ,STM,PTE,KUE
P21		F01565G00ZP	OPERATION PRECAUTION	1	ZPE

5. DIGITAL PROGRAMMER CIRCUIT

5.1. SCHEMATIC DIAGRAM


MN101C54C***
+5V
0V
+12V
Steam Sensor
Inverter P.C.B.
ALD1B
●PullDown
*pull-up



	JPR4	JPR3	JPR2	JPR1
F603L5G00HN	OPEN	OPEN	OPEN	1.5K
F603L5G00MN	OPEN	OPEN	OPEN	SHORT
F603L5G00YN	OPEN	OPEN	OPEN	OPEN
F603L5G00TN	OPEN	OPEN	OPEN	3.3K
F603L5G00SN	OPEN	OPEN	OPEN	16K
F603L5G00KN	OPEN	OPEN	OPEN	6.2K
F603L5G00ZP	OPEN	OPEN	OPEN	68K

5.2. PARTS LIST

Ref. No.		Part No.	Part Name & Description	Pcs/Set	Remarks
BZ310		AEFBAT2001	BUZZER	1	2.0KHz
C10		EEUFC1C471B	AL CHEM CAPACITOR	1	470 μ F/16V
C11		AECETS1C220B	AL CHEM CAPACITOR	1	22 μ F/16V
C25		ECA2WHG100E	AL CHEM CAPACITOR	1	10 μ F/450V/105°C
C481		AECETS1H010B	AL CHEM CAPACITOR	1	1 μ F/50V
C482		AECETS1HR47B	AL CHEM CAPACITOR	1	0.47 μ F/50V
C483		AECETS1H2R2B	AL CHEM CAPACITOR	1	2.2 μ F/50V
C40-C48		AECUU06R102K	CHIP CAPACITOR	9	1000PF/50V
C13,C330,C350,C351		AECUU06F103Z	CHIP CAPACITOR	4	0.01 μ F/50V
C12,C14,C220,C440,C484		AECUT06F104Z	CHIP CAPACITOR	5	0.1 μ F/25V
C480		AECUU06F473Z	CHIP CAPACITOR	1	0.047 μ F/50V
C320,C321		AECUU06C220J	CHIP CAPACITOR	2	22PF/50V (YTE,TPE,ZPE)
CN1		AEEMMD15509W	CONNECTOR	1	9 Pin
CN2		AEEMMF00703W	CONNECTOR	1	3 Pin
CN3		AEEMXH00703B	CONNECTOR	1	3 Pin
CN4		AEEMMF00D04W	CONNECTOR	1	4 Pin
CN5		AEEM09FDZBTM	CONNECTOR	1	
CN6		AEEMMF00703R	CONNECTOR	1	3 Pin
CX320		AEYXAT49-8MA	CRYSTAL RESONATOR	1	8.00MHz (YTE,TPE,ZPE)
CX320		AEFOS800MG06	CERAMIC RESONATOR	1	8.00MHz (EXCEPT YTE,TPE,ZPE)
D28,D220		AESSRCT1A6-E	DIODE	2	
D40,D41,D222,D223,D224		AESS133T-77	DIODE	5	
D25		AERZ511KD10A	VARISROR	1	
D26,D27		AERZ102KD10A	VARISROR	2	
D180,D181,D182		AESQTLGE260	CHIP LED	3	
DISP1 HOLD		A611A4J00XN	LCD HOLDER	1	
DISP 110		AEDDHJ4X80XN	DISPLAY	1	HPE,YPQ,MPQ,TPE,YTE
DISP 110		AEDDHJ4X70QP	DISPLAY	1	KTE,KPQ,STM,PTE,KUE,ZPE
IC1		MN101C54CDE2	L.S.I.	1	
IC25		AEICP25011HL	IC	1	
IC220		AEICU2004GR2	IC	1	
IC480		AEICUPC358G2	IC	1	
IC10		ETXMJ197X1BG	SWITCHING POWER SUPPLY	1	
Q10		2SD1859TV2Q	TRANSISTOR	1	
Q182		AESC43ZKE	CHIP DIGI-TRANSFORMER	1	
Q220		AESAKTA200Y	TRANSISTOR	1	
Q221		AESA14EKE	CHIP DIGI-TRANSFORMER	1	
Q440		AESC43XKE	CHIP DIGI-TRANSFORMER	1	
R40-R48		AERJ06JJ102R	CHIP RESISTOR	9	1K,1/16W,5%
R27,R220,R340,R490,R491		AERJ06JJ103R	CHIP RESISTOR	5	10M Ω,1/16W,5%
R223		AERJ06JJ104R	CHIP RESISTOR	1	100K,1/16W,5%
R488		AERJ06JJ105R	CHIP RESISTOR	1	1M Ω,1/16W,5%
R484		AERJ06JJ154R	CHIP RESISTOR	1	150K,1/16W,5%
R211		AERJ06JJ182R	CHIP RESISTOR	1	1.8K,1/16W,5%
R486,R489		AERJ06JJ202R	CHIP RESISTOR	2	2K,1/16W,5%
R320		AERJ06JJ221R	CHIP RESISTOR	1	220 Ω,1/16W,5% (YTE,TPE,ZPE)
R440		AERJ06JJ222R	CHIP RESISTOR	1	2.2K Ω,1/16W,5%
R330		AERJ06JJ333R	CHIP RESISTOR	1	33K,1/16W,5%
R210		AERJ06JJ391R	CHIP RESISTOR	1	390 Ω,1/16W,5%
R487		AERJ06JJ433R	CHIP RESISTOR	1	43K,1/16W,5%
R331		AERJ06JJ471R	CHIP RESISTOR	1	470 Ω,1/16W,5%

Ref. No.		Part No.	Part Name & Description	Pcs/Set	Remarks
R480,R481		AERJ06JJ472R	CHIP RESISTOR	2	4.7K,1/16W,5%
R485		AERJ06JJ684R	CHIP RESISTOR	1	680K,1/16W,5%
R441		AERJ06JJ823R	CHIP RESISTOR	1	82K,1/16W,5%
R222		AERDY2TJ104T	CARBON RESISTOR	1	100K,1/4W,5%
R482,R483		AERDY2TJ105T	CARBON RESISTOR	2	1M Ω,1/4W,5%
R182		AERDY2TJ361T	CARBON RESISTOR	1	360 Ω,1/4W,5%
R221		AERDY2TJ392T	CARBON RESISTOR	1	3.9K,1/4W,5%
R25,R26		AERDY2TJ393T	CARBON RESISTOR	2	39K,1/2W,5%
R821		AERDY2TJ821T	CARBON RESISTOR	1	820 Ω,1/4W,5%
R28		ERX12SJ1R0E	RESISTOR	1	1 Ω,1/2W,5%
RY1,RY4		AEGG5G1A12	POWER RELAY	2	
RY2,RY3,RY5		AEBGG5N1A12	POWER RELAY	3	
ZD10		AESZMTZJ5R6B	ZENER DIODE	1	
D29		AESTS1WBA60B	BRIDGE DIODE	1	600V

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